

INSPECTION CERTIFICATE acc to
EN 10 204 3.1.BSANDVIK DE MEXICO S.A. DE C.V.
VIA GUSTAVO BAZ 352
COL.LA LOMA
TLALNEPANTLA EDO.DE MEXICO
CP 54060 MEXICOINSPECTION STAMP
QA-TUBE**Customer References**Customer
order
2004-04-07

560-00991

Sandvik References

Order No.	Subs No.	ABSMT Dispatch note
	80278	18778/54
ABSMT No.	C.Code	
300-52126	68	

Material descriptionSEAMLESS STAINLESS HOT FINISHED
PIPE**Steel/material Designations**

Sandvik 3R65	AISI TP316/TP316L
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Steel making process
Electric furnace**Technical requirements**ASTM A-312-01, ASME SA-312-ED-01 AD-02
NACE MR 01-75**EXTENT OF DELIVERY**

It	Product designation	Heat	Lot	Pieces	Kg	M
15	TST-E-316L-3/4-SCH40	046219	97577	7	80.0	46.64
	26.67 X 2.87	046214	98194	6	71.0	41.24
				Total	13	151.0
						87.88

KEY TO HEAT

Heat Code	Heat No.
046214	457044
046219	457536

KEY TO LOT

Lot Code	Lot No.
97577	1308
98194	1402

TEST RESULTS**Chemical composition (weight%)**

Heat	C	Si	Mn	P	S	Cr	Ni	Mo
046214	0.018	0.37	1.73	0.026	0.008	16.93	11.26	2.04
046219	0.013	0.44	1.68	0.028	0.010	16.77	11.20	2.04
	N							
046214	0.066							
046219	0.069							



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Tensile test at room temperature

Lot	Yield strength	Tensile strength	Elongation
	N/mm ² Rp0.2	N/mm ² Rm	% 2"
97577	318	600	46
	338	588	44
98194	306	620	51
	309	619	51

Leak test:

- Hydrostatic test

Lot	Sec	Mpa
97577	6	17.0
98194	6	17.0

Hardness test

Lot	Min	Max
	HRB	HRB
97577	80.0	83.0
98194	77.0	83.0

Following controls/tests have been satisfactorily performed:

- Flattening test
- Intergranular corrosion test acc to ASTM A-262 PR.E
- Material Identification.
- Visual inspection and dimensional control.

Heat Treatment:

Solution annealed and quenched.

The number of tests are based on the size of the manufacturing lot before cutting to finished lengths.

The delivered products comply with the specifications and requirements of the order.

The material is manufactured according to a Quality system, approved and registered to ISO 9001.

The certificate is produced with EDP and valid without signature

TEST RESULTS TRANSFERRED FROM CERTIFICATE NO 2003/15
2003/115